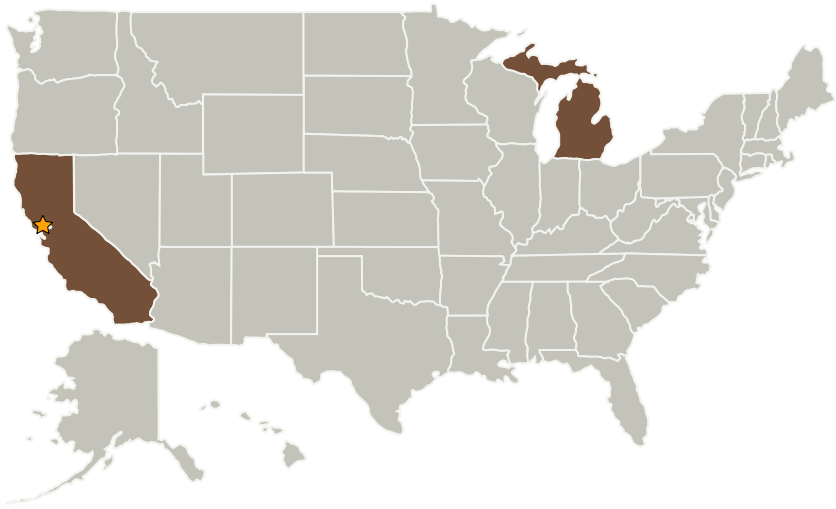
Small Sat Analysis Laboratory, Phase I

Completed Technology Project (2009 - 2009)

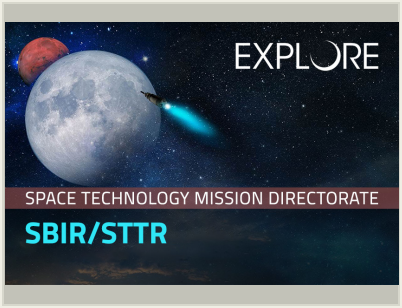
Project Introduction

The NASA Low-Cost Small Spacecraft Program is focused on the technologies, subsystems, methodologies, and mission concepts for space missions which lower the over-all cost for scientific exploration. We propose to support these effort through building a "simulation-of-simulations" software suite that allows (a) development of a standard small satellite architecture framework, (b) capture of all available subsystems simulations or engineering models that provide design and functionality documentation for small satellite architectural elements, (c) supports full small satellite systems physical and functional simulations of simulations against mission profile descriptions using the captured subsystem sub-simulation elements, and (d) support mission planning and analysis trade-studies that change subsystem and system parameters, supports inclusion and exclusion of alternative subsystem elements, and supports mission effectiveness parameter evaluation and display (including cost optimization or optimization a particular performance factors).

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Cybernet Systems Corporation	Supporting Organization	Industry	Ann Arbor, Michigan



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
California	Michigan

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.2 Avionics Systems and Subsystems
    - TX02.2.4 Low Power Embedded Computer Systems